Statement of Reed E. Hundt

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on

Spectrum Management Policy

before the

Subcommittee on Telecommunications, Trade, and Consumer Protection

Committee on Commerce

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I am very happy to testify here today. Spectrum policy is a key aspect of the new competitive communications policy that the FCC and Congress have been trying to establish.

February 23rd will mark the 70th anniversary of the passage of the Federal Radio Act of 1927 creating the Federal Radio Commission. As radio stations grew from zero to 600 in the 1920s, there were two choices for spectrum policy: the privatization of spectrum with a very limited public interest versus a declaration that the spectrum belonged to the public and that the government should regulate its use. Secretary of Commerce Herbert Hoover chose the latter approach.

Hoover and Congress argued that the airwaves were public property and the government had the responsibility to ration licensees and ensure they operate in the "public interest, convenience, and necessity." To effect this policy, in 1927, Congress established a temporary Federal Radio Commission for one year to reimpose order on the interference between stations, what they termed technical "chaos."[1] The FCC, founded in 1934, was its successor.

All debates about spectrum policy since the 1920s have, in some sense, revisited the fundamental question faced by Hoover: should spectrum be treated as public property to be used according to government rule, or should spectrum be treated as private property with minimal

[1] In one of its first acts, the Federal Radio Commission grandfathered major radio broadcasters while eliminating small competitors. It then continued to ration spectrum by agreeing with industry incumbents not to expand the broadcast band as had been done in other countries.

government intervention? History makes very clear that the correct policy draws from both sides of this debate. On the one hand, usable radio spectrum is finite and it is highly desirable to guarantee that some of its uses serve public purposes. To treat spectrum as public property is to guarantee that access to this finite resource can be fairly distributed and that public benefits from spectrum can be guaranteed. On the other hand, maximizing economic benefits from spectrum use requires extensive reliance on the same market-based forces that lead to optimal use of private property. The lessons we have learned over the 70 years since the Federal Radio Commission was created have led to a "third way" that delivers public benefits from this key resource of an information age, but deregulates and relies on private market mechanisms to develop that resource for the good of the economy.

Goals for Spectrum Policy

Spectrum policy should serve the public by facilitating the services that are desirable for public purposes. Very often these public purposes are served by encouraging competitive market-based resource exploitation. Where the market will not provide the services that maximize the public benefit, however, public interest obligations should be placed on spectrum users. In order to achieve these two simple goals, we should follow four basic principles.

The following four basic principles will achieve the goal of creating the services that are desirable for public purposes:

1. Competition, not monopoly, in all uses of the airwaves.

2. Flexible use of the airwaves for commercial purposes.

3. Clearly defined guidelines for all uses of the airwaves that are not strictly commercial (i.e. public interest uses).

4. The award of licenses through competitive, quantifiable, open and fair processes.

These principles are described in detail in the FCC staff report by Gregory Rosston and Jeffrey Steinberg, "Using Market-Based Spectrum Policy to Promote the Public Interest" released in January.[2] This report in effect summarizes the knowledge gained from the successes and failures of the Commission and the country with respect to the public's property of the airwaves. This report is the single best summary of desirable spectrum policy that I know of today. It should generally and specifically guide the Commission's decisions, in my view, in order to maximize economic growth, job creation and technological advancement associated with spectrum use, and to maximize the creation of public goods (such as free over-the-air television) that may be desirable for our society.

The Commission should embrace these principles in a comprehensive spectrum policy statement. Such a statement will provide clear guidance to achieve the goals of maximizing the public interest and curing obvious market failures while deregulating to let market-based competition work to consumers' advantage. The Commission's only previous articulation of its

[2] This is available on the FCC World Wide Web site, www.fcc.gov.

spectrum policies was issued in 1945.[3]

Under the old regime of the 1945 principles, the Commission determined the best use for each block of spectrum and assigned licenses accordingly.[4] The Commission looked at whether a specific proposed service could be provided in other ways and whether the service was truly necessary.

Spectrum management decisions based on these old-regime principles have cost the country billions of dollars and have put the U.S. behind other countries in terms of telecommunications leadership. Consumers are denied the benefits of new products and competition. For example, many other countries adopted spectrum policies that introduced multiple competitors to the mobile market well in advance of the FCC decisions to license PCS. As a result, their customers received the benefits of competition and new digital products well in advance of U.S. citizens.

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[3] Allocation of Frequencies to the Various Classes of Non-Governmental Services in the Radio Spectrum from 10 Kilocycles to 30,000,000 Kilocycles, Docket No. 6651, Report of Proposed Allocation from 25,000 Kilocycles to 30,000,000 Kilocycles at 18-20 (released Jan. 15, 1945) ("1945 Policy Statement").

[4] "[In the particular case of] proposed new services, the Commission [has undertaken] to determine whether such newer services met a substantial public need and what the likelihood was, if frequencies were granted, that the service could be established on a practical working basis. With the shortage of frequencies available, the Commission [does] not believe that it would be in the public interest to assign frequencies to a new service unless it could be shown that there would be public acceptability and use of the service." (1945 Policy Statement, p. 19)

Spectrum Background

A license to use spectrum is, in effect, a license to transmit an electromagnetic wave at a certain frequency or range of frequencies. These frequencies are measured in terms of Hertz, the number of cycles per second. Radio signals, infrared light, visible light and x-rays all travel in waves. However, frequencies below 300 billion cycles/second, or 300 GHz (gigahertz), are considered to be radio and are deemed public property within the jurisdiction of the FCC.

These radio waves are not typically limited to line of sight paths, travel comparatively long distances, and cannot readily be focussed into narrow beams. For these reasons, radio waves vibrating at similar frequencies can interfere with each other. Rules limiting propagation characteristics can prevent interference and thereby maximize the overall value of the spectrum. In terms of economic theory, these rules prevent a "tragedy of the commons."

Radio waves of different frequency essentially occupy the same time and space. Frequencies are not exhaustible natural resources. Moreover, virtually all frequencies can be used to communicate in digital form voice, video and data. In short, the commercial uses of the radio waves are not constrained narrowly the laws of science. For these reasons, it can be misleading to analogize spectrum to real estate or other natural resources. Furthermore, although different frequencies have different propagation characteristics, scientists are continually inventing new uses for a broad range of frequencies. Under the "third way" of spectrum management, innovative uses should be encouraged by relying on market-based policies.

Cellular Telephone History

Cellular telephone service has experienced significant growth and consumer acceptance over the past 13 years. Although it is in many respects a success, significant regulatory obstacles have denied consumers billions of dollars in benefits and imposed significant costs on the industry. We should learn from the cellular experience to see how we can improve spectrum policy in the future.

Cellular telephony was first proposed in the 1940s by AT&T, but it was not commercially introduced until the 1980s. The delay was a function, in significant part, of the old regime. The FCC considered licensing cellular as a monopoly in 1974. But a series of court challenges and reconsiderations delayed the licensing for another 10 years. Ultimately, the Commission decided to license two providers in each area instead of one. Under the principles listed above, that decision should have been reached earlier, and more licenses should have been issued. Wireless services would have been priced more competitively, more innovation would have occurred, services would have been introduced more rapidly, and investment and economic growth would have increased earlier.[5]

The cellular history violated the four principles of the "third way" elaborated above. First, the FCC did not move quickly enough to create competition instead of duopoly among licensees. The FCC could easily have used more of the unused UHF TV channels to create a third viable

[5] A 1991 National Economic Research Associates, Inc. study estimates this delay cost the economy $86 billion.

competitor in 1986. Instead the FCC gave additional spectrum to the incumbent duopolists. By contrast, other countries have moved much more rapidly to create more licenses. For example, in Great Britain, three "PCN" licenses were awarded in 1989 to compete with the cellular licensees. Sweden has had at least three cellular licensees since 1981.

Second, the Commission set restrictive service and technical rules for cellular. Instead of setting initial conditions and getting out of the way, the FCC required enormous effort on the part of lawyers, engineers and Commission staffers to redo the technical rules to accommodate changes in the marketplace. The FCC had to rewrite the rules to allow digital transmission. The FCC had to rewrite the rules to allow data transmission. The FCC had to rewrite the rules to allow fixed services. All of this wasteful effort could have been avoided if the FCC had set deregulatory rules according to the principles outlined in the 1997 staff policy report instead of the 1945 Commission policy statement. But more importantly, this effort repressed innovation and competition.

Third, the non-commercial or public interest guidelines were obscure and poorly enforced. Chiefly these were requirements that licensees would build out to serve rural areas. Buildout requirements in cellular did little to achieve any public policy goal. A far better approach is set forth in the 1996 Telecommunications Act which requires universal service contributions from all telecommunications carriers.

Fourth, the cellular licensing process was not fast, fair, or efficient. It in effect gave away

public property worth $30 billion to individuals who bought lottery tickets, but were not the parties most interested in building the systems. But the real sin was that it was hideously complex, prolonged and arbitrary to award the licenses in a lottery. The obvious result was the speculation and private auctions that followed immediately, which imposed significantly higher transactions costs than would have occurred with a well-run primary market auction.

Other History Lessons

Unfortunately, this sad story of FCC processes costing the public billions of dollars is not limited to cellular. The FCC process has resulted in other significant delays in bringing service to the public. Each of these delays has real negative impacts on consumers that can be measured in the millions and billions of dollars.

The FCC has often failed to introduce competition as rapidly and as pervasively as we should. The FCC could have gotten PCS spectrum to the market much more rapidly. Many other countries launched competition to cellular earlier than the United States. As a result, their citizens have realized the benefits of additional competition and digital technology for a number of years. This is why Finland has significantly higher (27%) penetration of wireless than the United States (15%). Other countries have begun to use wireless as a local loop service. In the United States, it took a special rulemaking to allow PCS and cellular providers to offer fixed wireless services. The prohibition on providing fixed service had nothing to do with interference.

Time and again, there is still controversy over awarding licenses by competitive bidding. For example, in 1994, over my dissent, the FCC voted to lottery licenses for unserved cellular areas. Based on a recent auction for similar licenses, we now know that the cellular unserved lottery giveaway cost the American taxpayers approximately $20 million.[6] This not only cost the taxpayers directly, but consumers in those areas suffered because of further delay in the introduction of service. If we had held an auction, those who wanted to serve and were best able to serve these areas would have been the licensees, not some lucky lottery winner.

Flexibility -- A Better Way

Congress and the FCC need to affirm a new paradigm of spectrum policy that relies on market techniques for commercial uses of spectrum. I believe that such a policy is the best way to ensure that spectrum is used to benefit the public. Market-based spectrum policy is not based on new radical economic theories, but rather on sound principles that have been tried and true for 50 years. Nobel Laureate Ronald Coase wrote an article advocating market-based approaches for the FCC more than 35 years ago.[7]

This approach has been decried by parties who fear the end of "free" spectrum. They generally claim that market-based proposals will lead to anarchy and interference. The 1997 staff

[6] Out of 80 unserved area licenses awarded by lottery, 23 have already been terminated for failure to construct. Under these circumstances, what was the point of the lottery? In all likelihood, an auction would have attracted someone who wanted the license.

[7] Ronald H. Coase, *The Federal Communications Commission,* 3 J.L. & ECON, 1 (1959).

spectrum policy report contains clear and strong provisions to control interference. For example, no paging company cares whether it is adjacent to a PCS company, microwave repeater or television station as long as it does not receive or cause interference. Engineers can design transmitters using almost any frequency. Of course, there are always tradeoffs between the cost of equipment, propagation and interference. To strike the right balance, private parties should be able to acquire spectrum leases in the market and design systems to fit with the leases. The spectrum leases should come with certain covenants, easements and responsibilities that stay with the license, such as public interest requirements and interference parameters.

Flexible spectrum policies also promote efficient investment in telecommunications infrastructure for at least two reasons. First, as analysts generally agree, greater flexibility makes the wireless sector more attractive, because companies have the ability to pursue new market demands without going through a costly, time-consuming and uncertain process seeking rule changes from the FCC. Second, companies generally agree that in a flexible environment they are more likely to invest where they perceive demand that they can successfully serve, and they also are more likely to attempt to serve developing markets. With this policy they will not be required to waste money investing in infrastructure that is not needed, and money they do invest will see returns faster without regulatory delays.

Use Definitions are Doomed to Fail

We study history so as not to repeat its failures. Spectrum policy, unfortunately, teaches

us many lessons. One important lesson is that static definitions of use, whether for service or technology, are doomed to fail and will need to be changed. In nearly every service the FCC authorizes, licensees come back to the Commission to ask permission to change something. This is not ancient history, but is occurring even now, as the old regime continues its sway over Commission thinking.

Last week, Multipoint Distribution Service (MDS) licensees petitioned the Commission to gain additional flexibility so that they could provide two-way services. Why is this necessary? Shouldn't flexible use be automatic? If MDS licensees want to provide high speed two-way services, the public needs the opportunity to receive these services. This will provide competition to the cable companies and telephone companies who promise to provide the same services. We must reject the 1945 principles that would administratively evaluate the relative costs of wireless and wireline provision of these services. Rather, we need to allow licensees the flexibility to provide the high speed, high quality services that consumers demand.

The same process occurred with PCS where the FCC's original allocation precluded fixed services on a primary basis. The initial rulemaking on PCS restricted licensees from offering fixed services except on an "ancillary" basis to their mobile offering. The Commission was forced to initiate a new rulemaking to grant the additional flexibility to the licensees despite absolutely no interference concerns. Some questioned whether the FCC should allow licensees additional flexibility, or whether we should needlessly limit the new flexibility to wireless "local loop" services. In the end, the FCC voted for the concept that the licensees should be able to provide

the competitive services customers would demand, but this result should have been in the initial rulemaking and should have been non-controversial.

The FCC also adopted such "old regime" rules, for example, in Interactive Video Data Service (IVDS) and the results show the problems with that approach. The FCC set restrictive service definitions, limited technologies and required buildout. Yet, we still have no service.

A far better solution in all these cases would be to set interference parameters and otherwise allow any service offering and technology that did not violate the interference controls. This would eliminate the "mother may I" aspect of spectrum management. The market works best when entrepreneurs are not handcuffed by regulators pre-approving the services they can offer. So why should FCC licensees have to ask permission to introduce new services they think consumers want?

Auctions Should be Used to Resolve Mutual Exclusivity

The FCC has used three mechanisms to resolve mutual exclusivity. Only one works -- auctions. Lotteries were used for cellular, low power television and most recently, over my strenuous objections, for unserved cellular areas[8] and MDS.[9]

[8] Implementation of Section 309(j) of the Communications Act -- Competitive Bidding for Cellular Unserved Areas", PP Docket 93-253, 10 FCC Rcd. 7394 (1984) (Dissenting Statement of Chairman Reed E. Hundt).

[9] Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding, 10 FCC Rcd 9589, 9738 (1995). (Dissenting Statement of Chairman Reed

When lotteries draw many applicants, it is a virtual statistical certainty that the winner will not be the party that values the license most highly. The winner is then motivated to sell its rights to the party that does value it most highly; in other words, hold a private auction of the license. About 75% of the original cellular RSA lottery winners sold their licenses within three years of their initial grant. This is a clear sign that the wrong people won the license in the lottery, the public did not get the revenue, and the transactions costs were increased. It took 10 years for Craig McCaw to aggregate licenses of sufficient magnitude so that AT&T was willing to buy the package. Investment bankers got rich arranging the aftermarket transactions. And the public got nothing. Compare this to Sprint's recent experience where it was able to put together a nationwide system in just two auctions. And the public got billions of dollars.

Comparative hearings are also problematic.[10] The FCC awarded the Los Angeles non-wireline cellular franchise on the basis that the winning system promised one more cell site than the next best system.[11] The proposed systems had no relation to the system that was actually implemented and therefore the comparative hearing criteria had only a coin flip chance at picking the "best" provider. Most licenses awarded through comparative hearings are resold in private

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E. Hundt).

[10] "Comparative hearings using these criteria often appear to become bogged down in litigating subjective or trivial distinctions and the criteria themselves may invite manipulation by the applicants. Thus, there is a question whether these proceedings delay the initiation of new service to the public and also a question whether the applicant chosen will in fact best serve the public interest." Reexamination of the Policy Statement on Comparative Broadcast Hearings, Notice of Proposed Rule Making, GC Docket No. 92-52, 7 FCC Rcd. 2664, 2665 (1992).

[11] "Rather, the majority grants LACTC's application based only on a single 'slight' preference on a sub-element of an issue, 'Geographic Area and Population.' LACTC proposes to serve .4% more of the population (42,179 people out of a total of 10,968,394 people) and .1% more of the MSA (17 square miles out of a total of 32,146 square miles) than ICS." ICS/MCI/CMS, 101 FCC 2d 1016 (1984) Dissenting statement of Commissioner Mimi Weyforth Dawson in which Commissioner Henry M. Rivera joins.

auctions anyway.[12]

The Courts agree with this critique. The FCC's comparative hearing criteria were overturned by the D.C. Circuit.[13] Senator McCain is clearly right when he says that we should go straight to auction for mutually exclusive applications, even for new analog broadcast licenses.[14] Anything else is a sham because the moment the license is awarded there will be a private auction.[15]

Some make the fallacious argument that auctions impose a cost on the licensees that in turn leads to increases in service cost. Economic theory can be used to prove that this is wrong. But we do not need to rely on theory. The market provides ample evidence to assess this claim. There is no difference in the prices of advertising on television stations that are owned by the original licensee and those that are owned by those who bought them through private auctions. There is no difference in cellular service prices for those who bought licenses through the private

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[12] Commission records show that more than 80% of all commercial TV stations changed hands at least once prior to 1995. Additionally, in 1995, there were 170 commercial TV stations that changed hands for at least $1,000,000 -- the minimum figure that Broadcasting magazine reports. (Broadcasting, 3/11/96 p.44). The 170 stations that changed hands during that time period represents about 14% of all commercial stations. Of these 170, 145 (or 85%) had changed hands before. In addition, 18 of the top 30 non-wireline cellular licenses which were awarded pursuant to the FCC's comparative hearing process filed for a transfer within five years.

[13] Bechtel v. FCC, 10 F.3d 875, 886 (D.C. Cir. 1993).

[14] Letter from Senator John McCain, January 9, 1997. I should stress that given the structure for assignment of the digital television licenses envisioned by Congress, there will be no mutual exclusivity and thus there should not be an auction for the digital licenses assigned to existing analog broadcasters.

[15] As discussed earlier, the vast majority of television station licenses have been resold, despite being awarded through comparative hearings. The prices for the recent transactions show the value of these licenses. While they are extremely valuable, these transactions, or private auctions show that auctions do occur and do not threaten the nature of the free over-the-air television service.

auctions or those who got them for free. In fact, the initial evidence from the impact of PCS licensees (all of whom had to pay for their licenses) is that they are charging lower prices (on the order of 15% lower) than their cellular competitors.

On the flip side, some argue that auctions make spectrum too cheap and that we are creating gluts of spectrum on the market. Everyone would agree that the decision to restrict taxicab medallions in New York City has artificially increased taxi rates there relative to Washington D.C., where the number of cabs is limited only by the market, and that we are better off in Washington as a result. Why is the same not true of spectrum? If we put more on the market, it may devalue spectrum held by existing licensees who thought their spectrum holdings had some artificial scarcity value. We have never made, nor should we ever make any representation that any licensee has any right to protection from competition. But that is the implication of the argument that spectrum is too cheap -- it will lead to too much competition. We should reject this argument.

We are aware of small businesses' concerns about access to our auctions, and we have addressed those concerns in a number of ways. First, small businesses account for 76% of the of the total licensees and have won nearly 50% of the licenses awarded by competitive bidding by the FCC. So they too can prosper in the auction context. Second, we are implementing flexible spectrum policies that will facilitate cheaper, faster, more certain access to spectrum by <u>everyone</u> in the market -- including small business. The partitioning and disaggregation policy makes it possible for a company to buy no more spectrum than it needs, and to serve a geographic area

only as big as the company's business plan. This policy combines reliance on market forces with sensitivity to the constraints on small businesses.

While auctions are working extremely well as a licensing tool for terrestrial wireless services and for a limited set of satellite services (DBS and potentially DARS), we have not yet solved the problems associated with auctioning "transnational" satellite services. Many of the newer satellite systems will operate in "non-geostationary orbits." This means that a satellite, rather than appearing to hover over a given country or region, instead moves across a set of countries and regions, and is capable of providing service to all. These satellite systems present a new and complex set of regulatory issues, including the need for the system operator to obtain licenses in many more countries, as well as more complicated coordination with other systems. In the face of these complexities, the advantages of auctions are likely to be smaller, and the disadvantages greater, and therefore auctions are not a preferred means for licensing transnational systems.

Where there is no mutual exclusivity, we do not need to conduct an auction. The market price of the spectrum is zero. However, we should not use artificial means to eliminate mutual exclusivity. Another case where auctions are not appropriate is where we have made the determination that low-powered, or unlicensed, devices should be authorized in a spectrum band.[16]

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[16] The FCC has released more than 6.5 GHz of unlicensed spectrum recently:

Millimeter Wave R&O 12/95 6.2 GHz (above 40 GHz)

Other Technical Requirements are Inefficient

Buildout requirements are unnecessary where licensees can buy and sell the rights to use spectrum. Buildout requirements do nothing to alleviate anticompetitive warehousing and are extremely difficult to enforce.[17] We should attack the problem of anticompetitive warehousing directly through spectrum caps. Then we can let businesses make the efficient decisions about when and how they build their systems, just like we let businesses throughout the rest of the economy decide on their business expansion plans.

Once again, we do not need to rely on theory. The FCC has an instructive history with respect to buildout requirements. In IVDS, we imposed one-year, three-year and five-year buildout requirements. The FCC has already been forced to rescind the one-year requirement because no workable equipment was available. The FCC is being petitioned to waive the three-year requirement. I fully expect someone to ask the FCC to get rid of the five-year requirement as well. What is the point of the rule? And what is the point of a rule that we do not enforce? We should just eliminate such rules. There would be no harm to our goals of promoting

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U-NII R&O 1/97	0.3 GHz (5.15 - 5.35 GHz and 5.725 - 5.825 GHz)
Unlicensed Broadband PCS	20 MHz (1910-1930 MHz)
Unlicensed Spectrum	10 MHz (2390-2400 MHz)
Unlicensed Spectrum	15 MHz (2402-2417 MHz)
Family Radio Service	400 kHz (462.5375- 462.7375 MHz and 467.5375-467.7375 MHz)
Low Power Radio Service	2 MHz (216-217 MHz)

[17] There is a significant administrative burden to ensuring compliance with the FCC's construction requirements. For example, in paging and SMR, we send out automated letters requesting confirmation that each licensed site has been constructed. This amounts to thousands of letters a year that must be generated and thousands of responses that must be processed.

competition and public benefits from communications by rescinding buildout requirements.[18]

I should note that I am in favor of imposing and enforcing a strict buildout requirement for the new digital television licensees. These licensees will also have their analog licenses and will be forced to return the analog licenses when digital is in a sufficient number of homes. This case defines clearly the basis for an exception to our basic principles. Congress desires that the DTV licenses not be subject to mutual exclusivity. Congress desires to promote the transfer of today's free over-the-air programming to a digital medium and enable today's public interest-minded broadcasters to expand from a strictly analog business to a digital business. These Congressional goals have precluded an auction for the DTV licenses and instead led to the Congressional directive that the licenses be awarded directly to today's broadcasters.

The direct award of licenses has created the potential that DTV licensees would delay buildout for commercial reasons or because they will still possess the analog channels during a transition period. Because the return of the analog may be dependent on the success of the digital, they may have smaller incentives to build out the digital rapidly. This is not consistent with the Congressional desire to promote the rapid creation of a free over-the-air digital medium for all Americans that in turn will serve both competitive purposes (competition to cable, etc.) and non-commercial public interest purposes (such a medium could, e.g., provide enough free time, under the recent proposal of Barry Diller, to help cure the campaign finance problem). For these

[18] This indicates that it may be beneficial for Congress to change Section 309(j)(4)(B) to clarify that buildout requirements are not necessary.

reasons it is consistent with the Congressional intent to order the DTV license grantees to engage in a rapid buildout of their systems (but to permit flexible use).

Imposing efficiency standards is another anachronism. When licensees have economic incentives, they will make the right technology investment choices. I expect to be filing my dissent against an FCC decision to impose efficiency standards for licensees operating in the 220 MHz band. Carriers seek to use channels with broader bandwidth in the 220 MHz band. But some manufacturers who are making equipment for this band want protection from the equipment that licensees would buy if they had a choice to use channels with broader bandwidth. While I applaud the achievements of these manufacturers in developing efficient 5 kilohertz equipment, I object to their efforts to exclude manufacturers of equipment that licensees would prefer to use if the FCC permitted these licensees to operate in the band with wider channels.

Public Interest Requirements

Now we come to the third key principle to achieving the goal of facilitating the services that are desirable for public purposes. We need clearly defined guidelines for those uses of the public spectrum that are not strictly commercial.

Some will argue that we should have blind faith in the market. But we need to recognize the fact that sometimes markets fail. TV programming is a perfect example. The market will not naturally generate every kind of programming that the public wants, or will not channel

programming that the public does not want (such as indecent programming). The market will not get us the best outcome on issues like public safety, children's educational television, stump time for political candidates to set forth their positions for the voters, or the advertisement of hard liquor. It is where the market fails that the government has an important role to play.

The FCC has always had the duty to grant and renew broadcast licenses only after determining that the public interest will be served. Now why, some might ask, is it appropriate to place this public-interest requirement on licensees? My answer: because spectrum licenses are scarce, and because the spectrum belongs to the public, and because society deserves to obtain public benefits from spectrum use.

The marketplace shows that spectrum licenses are valuable public property of limited availability, and demand far exceeds supply. Those who argue that broadcast spectrum is not scarce should take note of the FCC auction of one DBS license for $682.5 million.

Furthermore, the spectrum belongs to the people. Those who characterize public-interest obligations as encroachments on licensees' rights ignore the fact that licensees use precious public property for their own private gain.

For example, the public recognizes the need for quality kids' television. They see that the high cost of TV time is forcing their elected representatives to spend an inordinate amount of time fund-raising. They also see that the search for profits is blinding the hard liquor industry and

some broadcasters and cable operators to the hazards to our kids posed by TV liquor ads. The public wants public interest rules to be part of a solution.

The public should receive over the public spectrum at least some programming not singlemindedly driven by the bottom line -- in the form of political debates, P.S.A.'s, congressional hearings, children's educational television, and the like. The marketplace of ideas should be filled to the bursting, not limited to whatever will display the "Buy Me" tag most effectively.

We can help the broadcasters and public alike by articulating clear guidelines about what public-interest obligations accompany use of the public spectrum. Concrete rules allow broadcasters to plan and to be sure that they are complying with what is expected of them. Concrete rules also help viewers, by letting them evaluate what broadcasters are doing. Concrete guidelines help guarantee that broadcasters who do more in the public interest get credit for it.

In addition to being concrete, public-interest obligations should be commensurate with the value of the spectrum broadcasters have been given. For example, the shift to digital will give broadcasters many more hours of programming time, as well as the ability to provide innovative services. It is only fair that their public-interest obligations keep pace with their new capacity on the public spectrum.

The extraordinary new capacity afforded by digital technology gives us the opportunity to reconsider the most effective way for broadcasters to serve the interests of the public. One idea is

to give political candidates access to "stump time," -- an ample chance to communicate with voters using the most powerful medium ever invented. This TV stump time, provided by broadcasters as part of their satisfaction of the public-interest obligations, could relieve a great deal of the enormous pressure on candidates to raise money to run for office. The ability to use stump time without having to pay for that time would allow candidates to inform the voters while freeing the candidates from much of the distracting business of fund-raising.

Provisions for Public Safety

Wireless communications are the lifeblood of our Nation's law enforcement, fire, and emergency medical service agencies. Without adequate radio communication resources, including appropriate spectrum as well as sufficient funding and regulations that make sense, the men and women we rely on every day to protect our lives and property cannot do their jobs.

With the encouragement of Congress we, along with NTIA, established the Public Safety Wireless Advisory Committee (PSWAC). The PSWAC was an unqualified success. It brought together more than 500 representatives of the public safety community in a collaborative effort that produced results. And much of the credit for what the PSWAC accomplished is due to the hard work of Phil Verveer, the Chairman of the Committee and Mike Amarosa, who led the final report drafting efforts and who will be testifying later today. The PSWAC's outcome is a comprehensive study of the needs and problems facing the Nation's public safety agencies. But more importantly, the PSWAC made a series of solid recommendations on how to improve public

safety wireless communications.

One of the most urgent needs it identified was the need for more public safety spectrum, but not just any spectrum. For too long the public safety community has been beset by the problems of operating in many different frequency bands -- meaning that agencies in one town often cannot talk to each other and that police departments in different jurisdictions cannot communicate. Past FCC policies contributed to the problems we see today. The Commission allocated spectrum on a piecemeal basis -- leading to the fragmentation that characterizes public safety communications. The most useful spectrum for public safety is spectrum near the bands in which public safety agencies already operate -- allowing them to make maximum use of existing equipment and giving manufacturers the economies they need to produce advanced equipment that is affordable.

One of the bands the PSWAC identified for future public safety use was the lightly used spectrum that now is allocated for TV channels 60-69. In many local areas, some or even all of these "60s" channels that are not currently used for broadcast could be redesignated for public safety use -- without affecting analog broadcast or future digital broadcast operations. Our engineers have told us that it can be done. And I believe we should do it. Both the President and Senator McCain have proposed dedicating 24 MHz of spectrum in this band (40%) to public safety uses. The remaining spectrum would be auctioned for other services. Attorney General Reno strongly endorsed this proposal just last week, and I applaud her foresight in working to solve the needs of the public safety community.

But this is only the first step in improving our public safety communications. In many cases, FCC rules continue to make it difficult for users to share spectrum or to utilize the most efficient technologies. The PSWAC was critical in identifying those areas where we, and the Federal government, need to make changes. In the long run, we must take several steps to make sure that public safety officers have access to the best equipment and the most advanced services. The FCC will continue to look for spectrum that could be used by public safety agencies, but there is more that needs to be done. Two areas identified by the PSWAC need to be highlighted. First, the public safety community is in desperate need of additional funding. It needs money to buy new equipment and to upgrade their systems to be more efficient. Shared systems, in which many local agencies across multiple jurisdictions band together to build one infrastructure, are the right way to pool scarce financial resources and frequencies; this gives users better systems than they could have built individually.

One way to get the money is through the targeted use of auction revenues, something we are not permitted to do now. As noted by the PSWAC, monies raised in future auctions could be earmarked for public safety use if Congress so desired. Deputy Attorney General Jamie Gorelick also supported using auction revenues to benefit public safety users in a letter to me just two weeks ago. One way to put auction revenues to work for public safety would be to create a public safety fund that could be used to finance the development of new systems and equipment. Monies could be distributed by State authorities. The public receives the value of new commercial services and the benefits of better public safety.

As part of the longer term improvement of public safety communications, the public safety community needs to have access to the most efficient and effective technologies. In part this is a problem of funding, but it is also related to the lack of incentives for public safety to use spectrum most efficiently by using the latest equipment and to the relatively small market they represent for manufacturers. The Commission can only help with the funding issues indirectly, through auctions (if the Congress allows it), but we can do more to ensure that the spectrum assigned to public safety entities is used as efficiently as possible. This will help reduce some of the capacity constraints they now face.

This leads to the second area that needs to be stressed. The public safety community needs to work more closely with commercial providers to see how commercial providers may be able to serve public safety needs. This, of course, is already happening -- pagers and cellular phones are a common tool in public safety. But more can be done. The Commission has been encouraging this process -- in our wireless enhanced 911 service rulemaking proceeding we have adopted rules under which wireless carriers will develop and deploy cutting edge technology enabling public safety personnel to pinpoint the location of citizens using wireless phones to call for help. The FCC has also taken steps to ensure that *all* emergency calls from people using wireless phones are routed quickly by carriers to public safety personnel.

The success of the wireless industry in the United States can be the engine that drives improvements in public safety for the longer term. Auctions allow new services to be deployed quickly and most efficiently. In the process, public safety benefits in two ways that do not distort

the market, but supplement it. First, new spectrum drives new technologies and services that can be leveraged to support public safety, either directly as public safety makes greater use of commercial providers, or indirectly as new technologies are developed that can be transferred to public safety use. Second, auctions make money that can be used to support public safety directly. The case of public safety represents spectrum management at its best.

Conclusion

The FCC must adopt a clear, consistent and concrete spectrum policy that promotes the public interest. To achieve this, we need to abide fully by the four principles: competition, flexibility, clear public interest guidelines, and open competitive license awards.

We have a large amount of spectrum that will be assigned to the market in the near future and if that spectrum is to deliver the maximum benefits, we need to abide by these principles. We cannot repeat mistakes of the past through case-by-case, ad hoc, decision-making that takes years and cripples the competitive development of the spectrum.

The experience of the past teaches us two lessons: first, the old command and control method does not work; and second, the PCS experience shows that flexibility does work to bring rapid, competitive benefits to the public. Combining this flexible spectrum policy with clear, concrete public interest obligations is the best way to manage the spectrum.